SWTS#28-AA-0002

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. 91-160
UPDATED WASTE DISCHARGE REQUIREMENTS
AND RESCISSION OF ORDER NO. 88-058 FOR:

CLOVER FLAT LANDFILL,
CLASS III SOLID WASTE DISPOSAL SITE
CALISTOGA, NAPA COUNTY

DISCHARGER:
CLOVER FLAT LANDFILL, INC.,
THE ESTATE OF WALTER TAMAGNI and
THE COUNTY OF NAPA

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

FINDINGS

1. The Clover Flat Landfill (previously known as the Upper Valley Landfill), 4397 Silverado Trail, Calistoga, California, lies completely within Assessor's Parcel Number 20-120-12, and is owned by the estate of Mr. Walter Tamagni. The parcel is approximately 112 acres in size, and the refuse fill area occupies 12 of those acres. Napa County has leased the landfill site from the Tamagni family since 1961 and Clover Flat Landfill, Inc., in turn has subleased the site from the county for waste disposal since 1963. The estate of Mr. Walter Tamagni, Clover Flat Landfill, Inc., and Napa County are hereafter collectively referred to as the discharger.

2. The discharger submitted the "Master Development Report, Clover Flat Landfill" on November 15, 1988. The report contains a Report of Waste Discharge and a Report of Disposal Site Information dated November, 1988. The discharger has applied for a revision of Waste Discharge Requirements (WDR), pursuant to Title 23, Division 3, Chapter 15 of the California Code of Regulations (Chapter 15) for the expansion of the Clover Flat Class III Landfill. This Order is an update to the current Order No. 88-058, Waste Discharge Requirements for the Clover Flat Landfill, adopted on April 25, 1988.

3. The discharger submitted to the Board a preliminary closure and post-closure maintenance plan dated October 1990. The closure and post-closure maintenance plan describes the methods and controls to be used to assure protection of the quality of surface and ground waters of the area during final operations and subsequent use of the land. The plan includes: (1) an estimate of closure and post-closure maintenance costs; (2) a proposal for a trust fund or

equivalent financial arrangement to finance the closure and post-closure; and (3) the amount to be deposited in the trust fund or equivalent financial arrangement each year.

4. The discharger has submitted the following:
   - o "Closure Plan Upper Valley Disposal Site, Napa County, California" dated May, 1979;
   - o "Project Description Report Clover Flat Landfill Expansion Plan," dated May, 1989;
   - o "Leachate Management Plan, Clover Flat Landfill," dated July 1989;
   - o "Prohibited Waste Control Program" (1990)
   - o Solid Waste Assessment Test Report dated June 1991;
   - o Letter report "Pyrite Oxidation, Clover Flat Landfill," dated May 24, 1991.
   - o Report of Disposal Site Information dated July 1991.

5. The discharger has proposed a groundwater and surface water monitoring program designed to detect any lateral or vertical contamination of groundwater at the site. This monitoring program does not satisfy the requirements outlined in Article 5, Chapter 15 as revised July 1, 1991.

6. The project site, as shown on Attachment A, which is incorporated herein and made a part of this Order, is a canyon-type landfill located in the northern part of the San Francisco Bay Basin between the cities of St. Helena and Calistoga, adjacent to "Silverado Trail", a Napa County roadway. The disposal site lies approximately 0.8 miles north of Silverado Trail, and about four miles southeast of the City of Calistoga. The landfill accepts for disposal only non-hazardous solid wastes generated in northern Napa County and delivered to the site by the general public and Upper Valley Disposal Service, Inc.

7. As presently configured and operated, the existing landfill Limit of Waste Disposal encompasses 12 acres. The current landfill operation accepts approximately 94 tons of refuse per day and reaches capacity in 1996 or 1997. The discharger has requested that the landfill's Limit of Waste Disposal be expanded from the current 12 acres to 44 acres, thereby extending the landfill's operating life by 35 additional years.

8. The Clover Flat Landfill is in the seismically active coastal region of California. The entire region experiences moderate seismic activity as the result of movement along the regional San Andreas Fault System. Major known faults in the area are the San Andreas, Green Valley, Maacama, and Healdsburg-Rodgers Creek faults. The site lies about 33 miles east of the San Andreas fault, 30 miles northwest of the Green Valley fault, 8 miles southeast of the Maacama

fault, and 12 miles northeast of the Healdsburg-Rodgers Creek fault.

9. The topography of the area around the Clover Flat Landfill is rugged, hilly terrain forming the eastern boundary of Napa Valley near Calistoga, California. The natural elevations of the site currently used for landfilling range from 600 feet on the southern side to more than 950 feet on the north. The current elevation of the active portion is about 760 feet MSL. The final elevation of the existing landfill closure plan would be 815 feet MSL; expansion of the Limit of Fill would increase the final maximum elevation an additional 185 feet to 1,000 feet above MSL.

10. The site is underlain by a complex series of inter-layered volcanic rock types covered by a thin soil mantle. The volcanic rocks identified at the site are referred to as the Sonoma Volcanics of Pliocene Age and range from extremely hard ryolites to soft, light colored ash and clay minerals. Locally, the rocks have varying concentrations of hydrothermally deposited sulfides; most commonly pyrite.

11. Groundwater at the site occurs primarily in fractured bedrock materials of the Sonoma Volcanics. Minor quantities of groundwater also occur seasonally within discontinuous deposits of alluvium along an ephemeral stream in the eastern portion of the site, a tributary to the Napa River. Surface water occurs within the site boundary as natural springs during wet months. Groundwater levels beneath the site, as measured in August, 1990, varied from surface springs down to about 14 feet in the alluvium and from 83 feet to 140 feet below the surface, in the bedrock.

12. Background water quality for ground waters beneath and adjacent to the site has been determined, for the purpose of establishing Water Quality Protection Standards (WQPS) as specified by Order No. 88-058.

13. **CEQA**
The County of Napa has certified a final Environmental Impact Report in accordance with the California Environmental Quality Act (CEQA, Public Resources Code Section 21000 et. seq.). The proposed landfill and landfill activity, as approved by the County, could cause significant effects on water quality and may degrade the water quality unless appropriate mitigation measures are taken. Potential impacts to the water quality could occur as a result of:
   - o Earthquake damage or failure of leachate collection system;
   - o Slope instability or failure as a result of water saturation of embankments;
   - o Potential degradation of surface water quality as a

result of increased sediment load and/or erosion;

- o Potential groundwater contamination due to contact with leachate;
- o Potential downstream impacts to aquatic biota from accidental discharge of contaminated water.
- o Alteration of existing surface and groundwater flow;

The preceding impacts are mitigated or avoided by a series of design measures to control erosion and assure containment of waste and leachate through the use of liners, leachate collection and removal systems, groundwater control and limits on the physical dimensions of the fill. The mitigation measures are described in the ROWD, Napa County Land Use Permit and by the Provisions of this WDR for the Clover Flat Landfill. It is intended that the findings, prohibition, specifications, and provisions of this Order be consistent with the certified final Environmental Impact Report (EIR).

14. The Clover Flat Landfill is situated where geologic and hydrogeologic conditions alone do not ensure against impairment of groundwater. Chapter 15 requires that there be a minimum 5 foot separation between waste and groundwater, (Section 2530(c). The site does not meet this requirement because several low flow springs exist in the canyon which could enter the waste. The proposed design is intended to address this condition by including: (1)a drainage layer to intercept the springs and any other groundwater on the site and convey it for discharge downgradient of the facility, and (2), by including a composite liner and leachate collection system to assure that wastes are contained within the landfill.

15. Section 2510(b) allows consideration of alternatives to the 5 foot separation requirement. The discharger has proposed a liner consisting of 24 inches of clay and 6 inches of an underdrain material; a total of a 30 inch separation of waste and groundwater. The discharger does not propose to add 30 additional inches of underdrain to attain the 5 foot separation required.

16. The proposed containment design is a satisfactory alternative to the 5 foot separation requirement of Section 2530(c) in accordance with the criteria of Section 2510. Compliance with the 5 foot separation specification of Chapter 15 is impractical due to excessive cost of additional fill needed to provide the separation and would not promote attainment of applicable perofrmance standards compared to the proposed design because the proposed drainage layer will assure adequate separation of groundwater from the waste. The proposed design is consistent with the performance goal of maintaining a

separation between groundwater and waste and it affords equivalent or superior protection against water quality impairment because it includes a composite liner and leachate collection system rather than a single liner.

17. The beneficial uses of the groundwater in the vicinity of the site include municipal, domestic and agricultural uses. The beneficial uses of the Napa River, which is situated approximately a mile and a half from the landfill, are as follows:
    a. Wildlife habitat
    b. Water contact recreation
    c. Non-contact water recreation
    d. Commercial and sport fishing
    e. Preservation of rare and endangered species
    f. Estuarine habitat
    g. Fish migration and spawning

18. The Board adopted a revised Water Quality Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. This Order implements the water quality objectives stated in that plan and its subsequent amendments.

19. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge, and has provided them with an opportunity to submit their written views and recommendations.

20. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED pursuant to authority in Section 13263 of the California Water Code, the discharger, its agents, successors and assigns may discharge waste at the Clover Flat Landfill providing compliance is maintained with regulations adopted under Division 7 of the California Water Code and with the following:

A. <u>PROHIBITIONS</u>

1. The disposal of waste shall not create a pollution or nuisance as defined in Section 13050 (1) and (m) of the California Water Code.

2. Wastes shall not be placed in or allowed to contact ponded water from any source whatsoever.

3. Wastes shall not be disposed of in any position where they can be carried from the disposal site and discharged into waters of the State or of the United States.

4. Leachate from wastes and ponded water containing leachate or in contact with refuse shall not be discharged to waters of the State or of the United States.

5. Hazardous and designated wastes as defined in Sections 2521 and 2522 of Chapter 15, except for waste that is hazardous due only to its friable asbestos content, **shall not** be deposited or stored at this site.

6. High moisture content wastes (restaurant grease, sewage sludge and septic tank waste), containing less than 50% solids, **shall not** be deposited or stored at this site. Wastes containing at least 50% solids and defined by Section 2523 of Chapter 15 as Non-hazardous Solid Waste, may be deposited at this site.

7. The discharge of wastes which have the potential to reduce or impair the integrity of the containment structures or which, if commingled with other wastes in the unit, which could produce chemical reactions that create heat or pressure, fire or explosion, toxic by-products, or reaction products which in turn:

   a. require a higher level of containment than provided by the unit,
   b. are "restricted hazardous wastes", or
   c. impair the integrity of the containment structures,

   is prohibited.

8. Construction of the containment features of the expansion cannot commence until the Executive Officer has approved of the design plans. Wastes shall not be placed in any area of the expansion until the Executive Officer has received written certification by a California registered civil engineer or certified engineering geologist that the structures have been constructed in accordance with those design plans.

9. The discharger, or any future owner or operator of this site, shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:

   a. Surface Waters

      Floating, suspended, or deposited macroscopic particulate matter or foam.

      Bottom deposits or aquatic growth.

Adversely alter temperature, turbidity, or apparent color beyond natural background levels.

Visible, floating, suspended or deposited oil or other products of petroleum origin.

Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.

b. Groundwater

The groundwater shall not be degraded as a result of the waste disposal operation.

B. SPECIFICATIONS

1. All reports pursuant to this Order shall be prepared under the supervision of a registered civil engineer, California registered geologist or certified engineering geologist.

2. Water used during disposal operations shall be limited to dust control, fire suppression and earthfill moisture conditioning.

3. The site shall be protected from any washout or erosion of wastes from inundation which could occur as a result of a 100 year 24 hour precipitation event, or as the result of flooding with a return frequency of 100 years.

4. Hazardous wastes, Designated wastes and Infectious wastes shall not be disposed of at this landfill. Non-hazardous, Inert wastes and Asbestos may be disposed of at this landfill provided that all regulations and provisions of the California Integrated Waste Management Board, California Department of Toxic Substance Control, local health agencies and County Land Use Permit requirements are complied with.

5. Surface drainage from tributary areas, and internal site drainage from surface and subsurface sources, shall be collected into an impoundment. The discharge of impounded water shall be subject to an NPDES permit issued separately by this Board. Surface drainage ditches shall be constructed to ensure that all

rainwater is diverted away from the disposal area and into the impoundment. In addition, groundwater occurring under waste shall be collected by an "under-drain system" and also diverted to the impoundment.

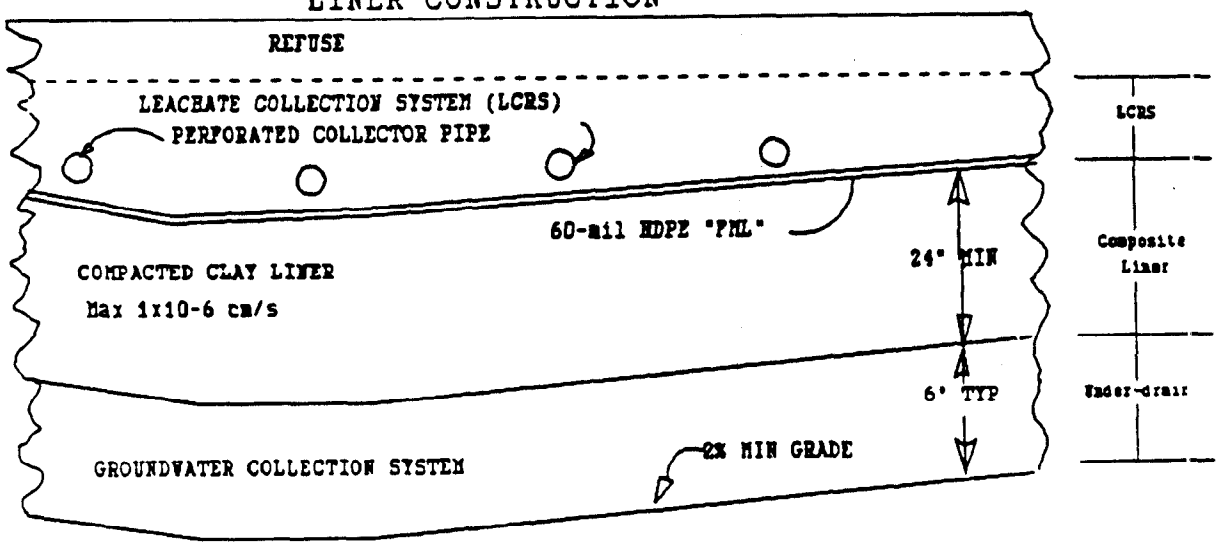
6. The discharger shall design, install and operate a blanket-type **Leachate Collection and Removal System, (LCRS)**, for the base of the landfill expansion, such that no hydraulic head remains on any portion of the liner. Leachate from the landfill expansion shall not be allowed to drain onto the originally permitted 12 acre landfill but may be collected into a leachate management facility common to the entire landfill operation.

   The LCRS shall be designed and operated to function without clogging, (per Sect. 2543.d), and inspected quarterly for excess fluid. The design shall be equipped with an accessible clean-out of the main lateral drain(s).

7. Landfill leachate shall be discharged to an above-ground, enclosed tank. Leachate may be recirculated only to the landfill area equipped with design features specified by this Order and in conformance with **Provision C.2** .

8. Minimum criteria for the liner specified in B.5 and B.6 above are as follows:

MINIMUM CRITERIA FOR
LINER CONSTRUCTION



9. The landfill shall be designed and constructed in conformance with Chapter 15 and this Order. The design plans shall be submitted to the Executive Officer for review and approval and shall include, but not be limited to, the engineered design plans for the fill cell, the construction specifications, a construction quality assurance (QA/QC) plan, and a revised water quality monitoring plan. The final construction report shall include, but not be limited to, construction record drawings for the waste management unit, a QA/QC report with a written summary of the QA/QC program and all test results and analyses, and a certification as described in Specification No. B.1 .

10. The discharger shall ensure that the foundations of the landfill, and the structures which control leachate, surface drainage, erosion and gas migration for this site, are constructed and maintained to withstand conditions generated during a maximum probable earthquake (MPE) event at either the San Andreas, Green Valley, Maacama, or Healdsburg-Rodgers Creek fault zones.

11. As portions of the landfill are closed, the exterior surfaces shall be graded to promote lateral runoff of precipitation. The final cover for the landfill will have a minimum slope of three percent plus an allowance for subsidence. The Maximum slope will be consistent with the final grading plans to be approved by the Executive Officer. The final cover shall be a minimum of 4 feet thick to include, 2 feet of structural base, 1 foot of a low permeability clay barrier, and 1 foot of vegetative soil. The final cover must also meet all other applicable requirements as described in Article 8 of Chapter 15.

12. The discharger shall operate the waste management facility so as to prevent a statistically significant difference to exist between water quality of the background water and water passing the point of compliance as provided in Section 2550.5, Article 5 of Chapter 15.

13. The concentrations of indicator parameters or waste constituents in waters passing through the point of compliance, as defined in Section 2550.2 of Article 5, Chapter 15, shall not exceed the "Water Quality Protection Standard" (WQPS), of the Discharge Monitoring Program proposed by the discharger pursuant to Provision C.3 of this Order and subsequently issued by the Executive Officer.

14. Pursuant to Section 2550.3 of the Revised Article 5, Chapter 15, these waste discharge requirements specify the constituents of concern to which the water quality protection standard of Section 2550.2 of Article 5 applies. Constituents of concern are the waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the waste management unit. The constituents of concern are those incorporated into Appendix I of Subtitle D, Title 40, CFR, in addition to Sulfate, Carbonate and Chloride unless the discharger proposes an alternate list of Constituents of Concern as provided in Article 5, Chapter 15 and in Provision C.3 below.

15. In the event of a release of a constituent of concern beyond the Point of Compliance, the site begins a Compliance Period (Sect. 2550.6(a)). During the Compliance Period, the discharger shall perform an Evaluation Monitoring Program and a Corrective Action Program.

16. The discharger shall install any additional groundwater and leachate monitoring devices required to fulfill the terms of any Discharge Monitoring Program issued by the Executive Officer to the discharger.

17. Interim cover shall be maintained over all waste, except for the active face area of the disposal operation, at all times.

18. Methane and other landfill gases shall be adequately vented, removed from the landfill units, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration through the vadose (unsaturated) zone.

19. Interim and final leachate facilities and berms shall be designed and constructed to withstand the maximum probable earthquake at the facility.

20. This Board considers the property owner and site operator to have continuing responsibility for correcting any problems which arise in the future as a result of this waste discharge or related operations during the active life and postclosure maintenance period.

21. The discharger shall maintain all devices or designed features, installed in accordance with this Order such that they continue to operate as intended without

5. The discharger shall submit a report satisfying Specification B.3 , acceptable to the Executive Officer which requires the protection of the site from flooding as a result of a precipitation event of a 100 year 24 hour return frequency. **REPORT DUE DATE: Prior to construction**

6. The discharger shall submit a detailed **Post Earthquake Inspection and Corrective Action Plan** acceptable to the Executive Officer to be implemented in the event of any earthquake generating ground shaking of Modified Mercalli Intensity V or greater at or near the landfill. The report shall describe the containment features, and ground water monitoring and leachate control facilities potentially impacted by the static and seismic deformations of the landfill. The plan shall provide for reporting results of the post earthquake inspection to the Board within 72 hours of the occurrence of the earthquake. Immediately after an earthquake event causing damage to the landfill structures, the corrective action plan shall be implemented and this Board shall be notified of any damage.
REPORT DUE DATE: 3 months prior to acceptance of waste

7. The discharger shall submit to this Board and to the California Integrated Waste Management Board, evidence of an **Irrevocable Closure Fund,** pursuant to Section 2580(f) of Chapter 15. The Closure Fund must provide sufficient funds to properly close the landfill and for the post-closure monitoring and maintenance of the site. For the purposes of planning the amount of the fund, the discharger shall assume a post-closure period of at least 30 years. However, the post-closure maintenance period shall extend as long as the wastes pose a threat to water quality.
REPORT DUE DATE: Prior to construction.

8. **The discharger shall submit a Final Design Proposal** acceptable to the Executive Officer pursuant to the specifications of this Order. The proposal should provide workplans for development of the various components of the landfill, including detailed specifications for construction of composite liners and leachate collection and removal systems and should include Quality Assurance & Quality Control Procedures, (QA/QC), for all aspects of construction and installation. The proposal shall also address maintenance, operation and closure plans, as well as a slope stability analysis, for the landfill. The workplans for construction of the liners and the LCRS should include detailed specifications regarding the

sequence of construction of the various segments of the project, and provide sufficient detail about how the various cells and modules of the landfill areas will interface structurally.
REPORT DUE DATE: 6 months prior to construction.

9. The discharger shall submit a corrective action plan to be instituted in the event of a leak or spill from the leachate facilities. The discharger shall give immediate notification to the San Francisco Bay Regional Water Quality Control Board, the Local Enforcement Agency (LEA), and the California Department of Toxic Substance Control. The discharger shall initiate its corrective action plan to stop and contain the migration of pollutants from the site.
REPORT DUE DATE: 3 months after Board approval of design drawings.

10. The discharger shall file with the Regional Board Discharge Monitoring Reports performed according to any Discharge Monitoring Program, (DMP), issued by the Executive Officer.

11. The discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements; waste deposited in the original 12 acre site and in conformance with requirements for that site are excepted.

12. The discharger shall file with this Board a report of any material change or proposed change in the character, location, or quantity of the waste discharge. For the purpose of these requirements, this includes any proposed change in the boundaries of the disposal areas or the ownership of the site.

13. The discharger shall immediately notify the Board of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste or leachate containment facilities or precipitation and drainage control structures.

14. The discharger shall maintain a copy of this Order at the site so as to be available at all times to site operating personnel.

15. The discharger shall permit the Board or its authorized representative, upon presentation of credentials:
    a. Entry upon the premises on which wastes are located or in which any required records are kept.
    b. Access to copy any records required to be kept under the terms and conditions of this Order.

c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order.

d. Sampling of any discharge or ground water covered by this Order.

16. This Board's Order No. 88-058 is hereby rescinded.

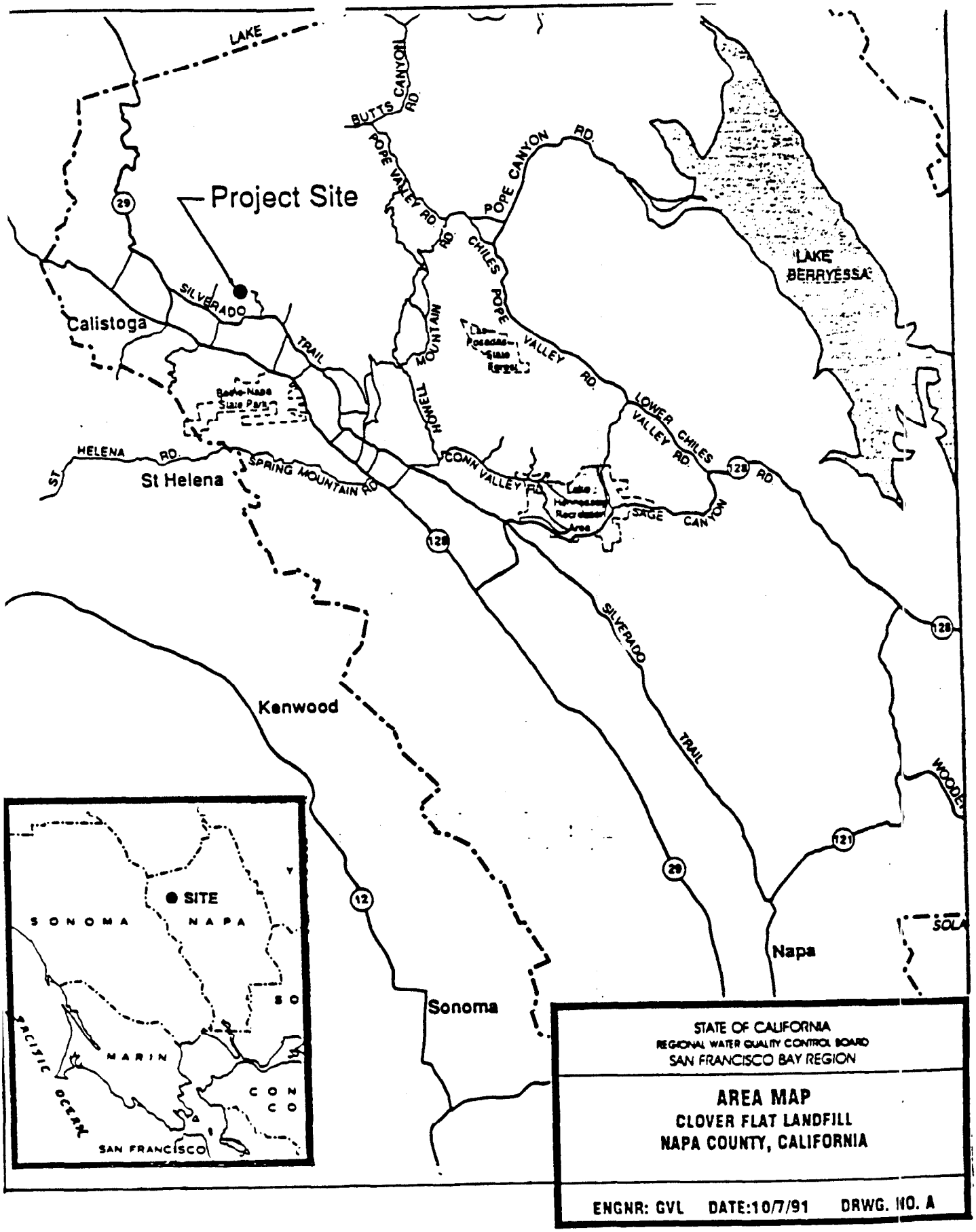
17. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes without appropriate permits from other agencies or organizations.

18. This Order is subject to Board review and updating, as necessary, to comply with changing State or Federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on November 20, 1991.

Steven R. Ritchie
Executive Officer

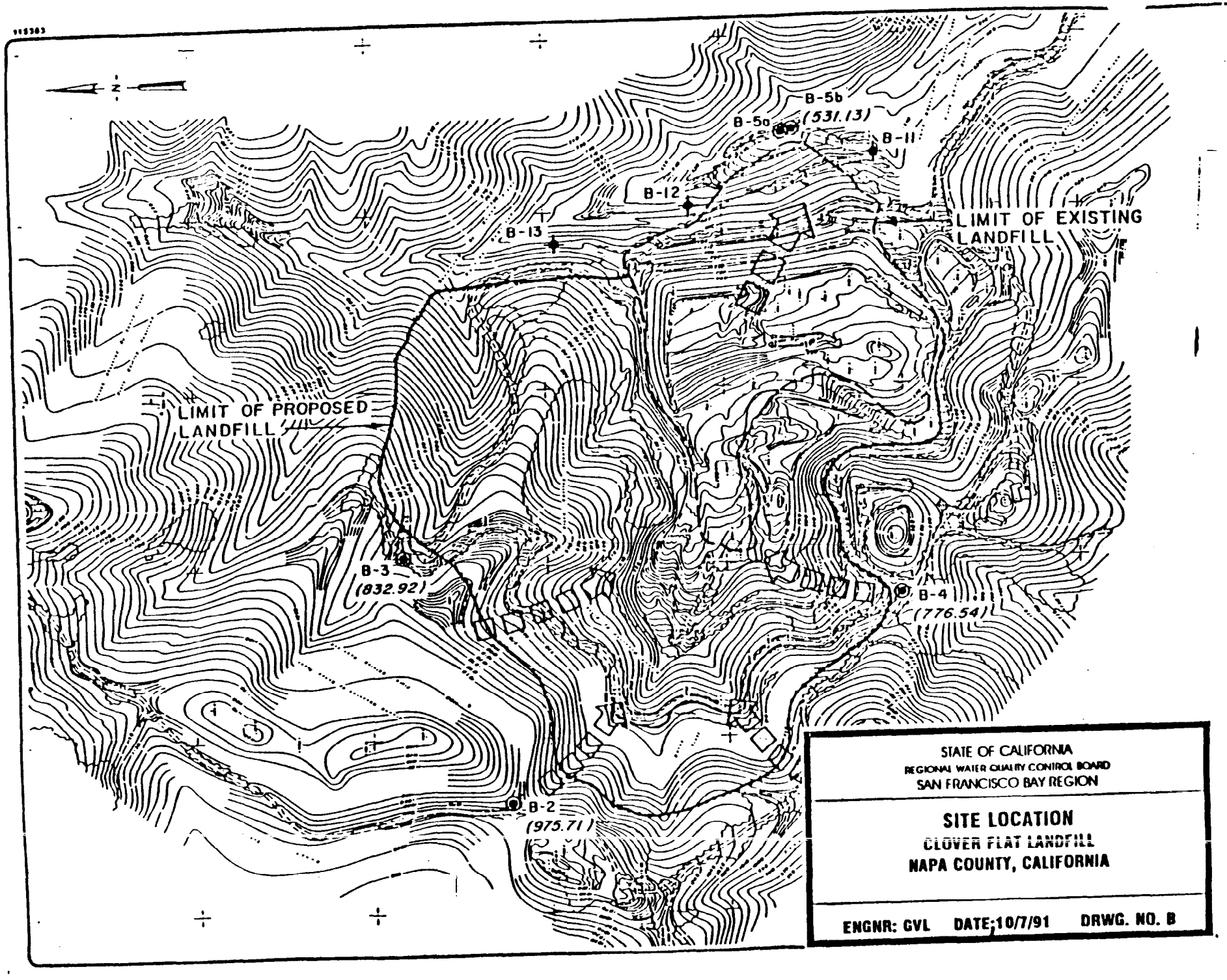
Attachments: A) Site Location Maps A & B
B) Self Monitoring Program



STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

AREA MAP
CLOVER FLAT LANDFILL
NAPA COUNTY, CALIFORNIA

ENGNR: GVL DATE:10/7/91 DRWG. NO. A


B-5b
(531.13)
B-5a
B-11
B-12
B-13
LIMIT OF EXISTING
LANDFILL
LIMIT OF PROPOSED
LANDFILL
B-3
(832.92)
B-4
(776.54)
B-2
(975.71)
STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
SITE LOCATION
CLOVER FLAT LANDFILL
NAPA COUNTY, CALIFORNIA
ENGNR: GVL DATE: 10/7/91 DRWG. NO. B

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

DISCHARGE MONITORING PROGRAM

FOR

CLOVER FLAT LANDFILL COMPANY

CLASS III SOLID WASTE DISPOSAL SITE

NAPA COUNTY

ORDER NO. 91-160

CONSISTS OF

PART A

AND

PART B

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No.73-16. This Discharge Monitoring Program is issued in accordance with Provision C.10 of Regional Board Order No. 91-160.

The principal purposes of a discharge monitoring program are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of standards of performance, and toxicity standards, (4) to assist the discharger in complying with the requirements of Article 5, Chapter 15 as revised July 1, 1991.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to most recent version of Standard Methods EPA Methods and in accordance with an approved sampling and analysis plan.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.

2. Receiving waters refers to any surface water which actually or potentially receives surface or groundwaters which pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the landfill areas, the surface runoff from the site, the unnamed tributary creek adjacent to the Clover Flat landfill Site are considered receiving waters.

3. Standard observations refer to:

a. Receiving Waters
   1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.
   2) Discoloration and turbidity: description of color, source, and size of affected area.
   3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
   4) Evidence of beneficial use: presence of water associated wildlife
   5) Flow rate.
   6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

b. Perimeter of the waste management unit.
   1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on map)
   2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
   3) Evidence of erosion and/or daylighted refuse.

c. The waste management unit.
   1) Evidence of ponded water at any point on the waste management facility.
   2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
   3) Evidence of erosion and/or daylighted refuse.
   4) Standard Analysis (SA) and measurements refer to:

      a. pH
      b. Electrical Conductivity (EC)
      c. Total Dissolved Solids (TDS)
      d. Total Phenols
      e. Chloride
      f. Total Organic Carbon
      g. Nitrate Nitrogen
      h. Total Kjeldahl Nitrogen
      i. Water elevation in feet, nearest 1/100th ft. above Mean Sea level
      j. Settleable Solids, ml/l/hr
      k. Turbidity, NTU
      l. EPA Method 624 or 8240, identifying all peaks greater than 1 microgram/liter

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

The discharger is required to perform sampling, analysis, and observations in the following media:

1. Groundwater per Section 2550.7(b);
2. Surface water per Section 2550.7(c);
3. The unsaturated zone per Section 2550.7(d);

and per the general requirements specified in Section 2550.7(e) of Article 5, Chapter 15.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.

2. Date and time of sampling.

3. Date and time that analyses are started and completed, and name of the personnel performing the analyses.

4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used.

5. Calculation of results.

6. Results of analyses, and detection limits for each analyses.

F. REPORTS TO BE FILED WITH THE BOARD

1. Written detection monitoring reports shall be filed by the 15th day of the month following the report period. In addition an annual report shall be filed as indicated in F.3 below. The reports shall be comprised of the following:

a. Letter of Transmittal

A letter transmitting the essential points in each report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no

violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

b. Each monitoring report shall include a compliance evaluation summary. The summary shall contain:

1) A graphic description of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations.

2) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature conductivity and turbidity testing, well recovery time, and method of disposing of the purge water.

3) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations.

c. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.

d. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board.

1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA approved methods or Standard Methods are

used, the exact methodology must be submitted for review and approved by the Executive Officer prior to use.

2) In addition to the results of the analyses, laboratory quality control/quality assurance (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that is less than 80%; the results of equipment and method blanks; the results of spiked and surrogote samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.

e. An evaluation of the effectiveness of the leachate monitoring or control facilities.

f. A summary and certification of completion of all standard observations for the waste management unit, the perimeter of the waste management unit, and the receiving waters.

g. The quantity and types of wastes disposed of during the past quarter, and the locations of the disposal operations.

2. CONTINGENCY REPORTING

a. A report shall be made by telephone of any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Board within five days. This report shall contain the following information:

1) a map showing the location(s) of discharge;
2) approximate flow rate;
3) nature of effects; i.e. all pertinent observations and analyses; and
4) corrective measures underway or proposed.

b. A report shall be made in writing to the Board within seven days if a statistically significant difference is found between a down gradient sample and a WQPS. Notification shall indicate what WQPS(s) has/have been exceeded. The discharger shall immediately resample at the compliance point where this difference has been found and re-analyze.

c. If resampling and analysis confirms the earlier finding of a statistically significant difference between monitoring results and WQPS(s) the discharger must

submit to the Board an amended Report of Waste Discharge as specified in Section 2550.8(k)(5) for establishment of an Evaluation Monitoring Program (EMP) meeting the requirements of Section 2550.9 of Chapter 15.

d. Within 180 days of determining statistically significant evidence of a release, submit to the regional board an engineering feasibility study for a Corrective Action Program (CAP) necessary to meet the requirements of Section 2550.10. At a minimum, the feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern.

3. REPORTING

By January 31 of each year the discharger shall submit an annual report to the Board covering the previous calendar year. This report shall contain:

a. Tabular and graphical summaries of the monitoring data obtained during the previous year; the report should be accompanied by a $5^1/_4$" computer data disk, MS-DOS ASCII format, tabulating the years data.

b. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements.

c. A map showing the area, if any, in which filling has been completed during the previous calendar year.

d. A written summary of the groundwater analyses indicating any change in the quality of the groundwater.

e. An evaluation of the effectiveness of the leachate monitoring/ control facilities.

4. WELL LOGS

A boring log shall be submitted for each sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 30 days after well installation.

Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. WASTE MONITORING - Report Quarterly

1. Record the total volume and weight of refuse in cubic yards and tons disposed of at the site during each month showing locations and dimensions on a sketch or map.

2. Record a description of waste stream to include percentage of waste type, ie., Residential, Commercial, Industrial or Construction debris.

3. Record location and aerial extent of disposal of each waste type.

B. ON-SITE OBSERVATIONS - Report Quarterly

STATION	DESCRIPTION	OBSERVATIONS	FREQUENCY
V-1 thru V-'n'	Located on the waste disposal area as delineated by a 500 foot grid network.	Standard observations for the waste management unit.	Weekly
P-1 thru P-'n' (perimeter)	Located at equidistant intervals not exceeding 1000 feet around the perimeter of the waste management unit.	Standard observations for the perimeter.	Weekly

C. GROUND WATER MONITORING - Report Quarterly

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
B-2	Ground water monitoring wells, as shown on the attached site map.	SA,WE	Qtly
B-5a&b		SA,WE	Qtly
B-11		SA,WE	Qtly
B-12		SA,WE	Qtly
B-3		WE	Qtly
B-4		WE	Qtly

SA=Standard Analysis WE=Water Elevation

D. SURFACE WATER MONITORING - Report Quarterly

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
SFC-1 SCF-'n'	Surface water as shown on the attached site map.	SA	Qtly when water is present

E. FACILITIES MONITORING

The Discharger shall inspect all facilities to ensure proper and safe operation once per quarter and report annually. The facilities to be monitored shall include, but not be limited to:

a. Leachate Collection and Removal System
b. Surface water impound
c. Leachate handling facilities
d. Perimeter diversion channels
e. Leachate Management facilities and secondary containment.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. 91-160.

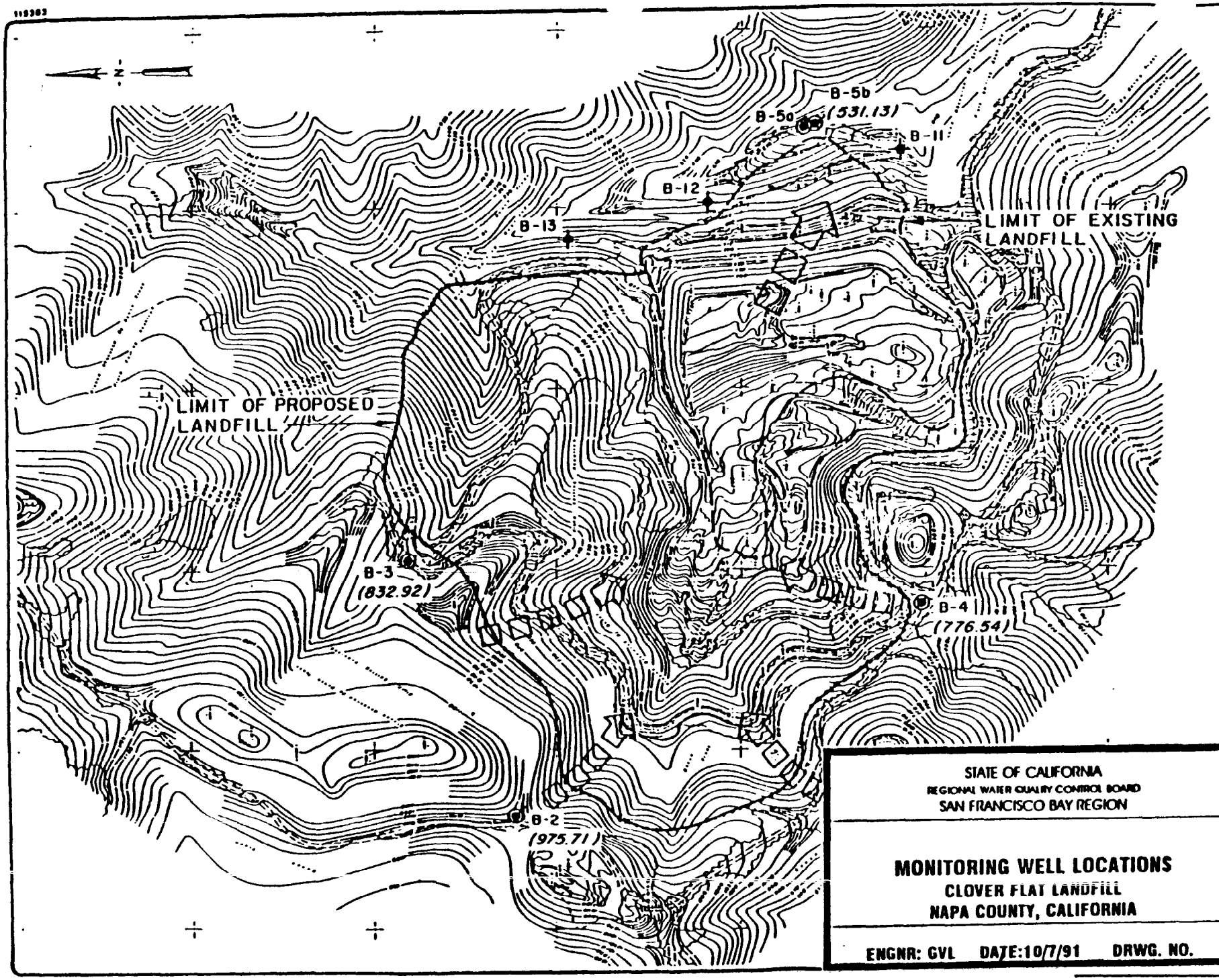
2. Is effective on the date shown below.

3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.

Steven R. Ritchie
Executive Officer

Date Ordered: November 20, 1991

Attachment: Site Maps


B-5b
(531.13)
B-5a
B-11
B-12
B-13
LIMIT OF EXISTING
LANDFILL
LIMIT OF PROPOSED
LANDFILL
B-3
(832.92)
B-4
(776.54)
B-2
(975.71)
STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION
MONITORING WELL LOCATIONS
CLOVER FLAT LANDFILL
NAPA COUNTY, CALIFORNIA
ENGNR: GVL DATE:10/7/91 DRWG. NO.